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09/905,317	07/13/2001	Yasuhisa Tsujita	09253-003001	6175

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EXAMINER

PREVIL, DANIEL

ART UNIT

PAPER NUMBER

2636

DATE MAILED: 08/15/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/905,317

Applicant(s)

TSUJITA ET AL.

Examiner

Daniel Previl

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-11 and 15 is/are rejected.
- 7) ☒ Claim(s) 5-7 and 12-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). All boxes in fig. 1 need to have a descriptive label. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 9, 15 recite the limitations "the life of the battery" accordingly; there is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-4, 8-11, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derbyshire et al. (US 6,271,748) in view of Munch et al. (US 6,580,364).

Regarding claim 1, Derbyshire discloses a transmitter operated by a battery (wheel transmitter unit 2 is provided by a battery 15) (col. 5, lines 19-20) and detects at least the temperature in the tire (the wheel transmitter unit 2 transmits information (temperature or pressure) (col. 4, lines 7-10; col. 6, lines 24-31) and a voltage-related value that varies in accordance with voltage of the battery (reference voltage unit provides a reference voltage output to a tight tolerance regardless of any changes in the voltage of the battery) (col. 5, lines 12-28; col. 9, lines 14-21).

Derbyshire discloses all the limitations above but fails to explicitly disclose a controller, which judges whether or not the life of the battery is ending depending on the voltage related value wherein the judgment regarding the life of the battery is preformed with the temperature in the tire.

However, Munch discloses a controller 72, which judges whether or not the life of the battery is ending depending on the voltage related value wherein the judgment regarding the life of the battery is preformed with the temperature in the tire (a battery voltage sensor 88 samples the voltage of the power supply 26 upon the controller 72 and indicative of the sensed voltage and provides a good indication of the battery) (fig. 2; col. 5, lines 44-53; col. 8, lines 13-23).

Therefore. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Munch in

Derbyshire. Doing so would monitor accurately the condition of the battery attached to a vehicle transmitter in the tire. So, an abnormal condition of the tire could be immediately noticed by the driver, wherein appropriate measures could be taken to prevent accident that can lead to property damage or severe injury even death.

Regarding claim 2, Derbyshire discloses the transmitter wirelessly transmits data, which includes data represents the temperature in the tire and data that represents the voltage related value and the controller is located in a receiver that receives the data from the transmitter (transmitter transmits via a radio frequency transmitter, temperature and voltage) (abstract) and controller, and the receiver are mounted behind the dashboard in a single unit housed) (col. 4, lines 3-33).

Regarding claim 3, Derbyshire discloses a comparison between the voltage related value and a variable voltage reference value that is selected with the temperature in the tire (col. 5, lines 12-53).

Regarding claim 4, Derbyshire discloses a functional equation that represent variation of the voltage of the battery with respect to the ambient temperature to which the battery is exposed (fig. 11; col. 13, lines 49-67).

Regarding claim 8, Derbyshire discloses a voltage related value is the voltage of the battery (battery voltage) (col. 5, line 19).

Regarding claim 9, Derbyshire discloses a transmitter which is operated by a battery (wheel transmitter unit 2 is provided by a battery 15) (col. 5, lines 19-20) and wirelessly transmits data (data is transmitted via a radio frequency transmitter) (abstract); wherein data represents the temperature in the tire (the wheel transmitter unit 2 transmits information (temperature or pressure) (col. 4, lines 7-10; col. 6, lines 24-31) and data that represents voltage of the battery (reference voltage unit provides a reference voltage output to a tight tolerance regardless of any changes in the voltage of the battery) (col. 5, lines 12-28; col. 9, lines 14-21); a receiver which receives the data from the transmitter (transmitted data is received by a receiver unit) (abstract).

Derbyshire discloses all the limitations above but fails to explicitly disclose a controller that judges whether or not the life of the battery is ending depending on the voltage of the battery, wherein the judgment regarding the life of the battery is performed in accordance with the temperature in the tire.

However, Munch discloses a controller 72, which judges whether or not the life of the battery is ending depending on the voltage related value wherein the judgment regarding the life of the battery is performed with the temperature in the tire (a battery voltage sensor 88 samples the voltage of the power supply 26 upon the controller 72 and indicative of the sensed voltage and provides a good indication of the battery) (fig. 2; col. 5, lines 44-53; col. 8, lines 13-23).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Munch in

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Derbyshire. Doing so would monitor accurately the condition of the battery attached to a vehicle transmitter in the tire. So, an abnormal condition of the tire could be immediately noticed by the driver, wherein appropriate measures could be taken to prevent accident that can lead to property damage or severe injury even death.

Regarding claim 10, Derbyshire discloses a comparison between the voltage of the battery and a variable voltage reference value that is selected in accordance with the temperature in the tire (col. 5, lines 12-53).

Regarding claim 11, Derbyshire discloses a functional equation that represent variation of the voltage of the battery with respect to the ambient temperature to which the battery is exposed (fig. 11; col. 13, lines 49-67).

Regarding claim 15, Derbyshire discloses a transmitter which is operated by a battery (wheel transmitter unit 2 is provided by a battery 15) (col. 5, lines 19-20); a temperature sensor which detects the temperature in the tire (abstract); a transmitting circuit which wirelessly transmits data including data that represents the detected temperature data and data that represents the detected voltage (fig. 1; abstract; col. 5, lines 18-27); a receiver which receives the data from the transmitter (transmitted data is received by a receiver unit) (abstract); a comparison between the voltage of the battery which derived from the received data, and a variable voltage reference value that is selected in accordance with the temperature in the tire which is derived from the received data (col. 5, lines 12-53).

Derbyshire discloses all the limitations above but fails to explicitly disclose a voltage sensor which detects the voltage of the battery; a controller that judges whether or not the life of the battery is ending.

However, Munch discloses a voltage sensor which detect the voltage of the battery (battery voltage sensor 88) (fig. 2); a controller 72 that judges whether or not the life of the battery is ending (controller 72 provides a good indication of the battery) (col. 5, lines 36-53).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Munch in Derbyshire. Doing so would monitor accurately the condition of the battery attached to a vehicle transmitter in the tire. So, an abnormal condition of the tire could be immediately noticed by the driver, wherein appropriate measures could be taken to prevent accident that can lead to property damage or severe injury even death.

Allowable Subject Matter

6. Claims 5-7, 12-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: In combination with all the limitations in the claim, the prior arts fail to teach or make obvious: the controller judges the life of the battery is ending if the temperature in

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the tire is equal to or greater than a predetermined reference value, and the controller does not perform the judgment regarding the life of the battery if the temperature in the battery is smaller than the reference value.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
9. Pashayan, Jr. (US 6,252,498) discloses a tire pressure detecting system for a vehicle.
10. Eberwine et al. (US 5,783,992) discloses a time based low tire pressure warning sensor.
11. Dezorzi (US 6,232,875) discloses an apparatus and method for controlling a tire condition module of a vehicle tire.
12. Koch et al. (US 5,573,611) discloses a method of monitoring conditions of vehicle tires and tires containing a monitoring device therein.
13. Lin (US 6,340,930) discloses a system and method for monitoring a condition of a vehicle tire.
14. Kessler et al. (US 6,445,286) discloses a method for operating a device for the monitoring and wireless signaling of a pressure change in pneumatic tires of a vehicle.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Previl whose telephone number is 703 305-

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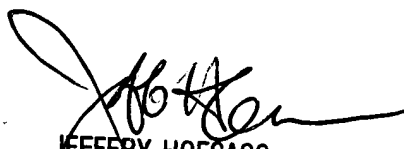
1028. The examiner can normally be reached on Monday-Thursday. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Hofsass can be reached on 703 305-4717. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9314 for regular communications and 703 872-9315 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-4700.

Daniel Previl
Examiner
Art Unit 2636

DP
July 23, 2003


JEFFERY HOFSSASS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600